CHAPTER 8

Motivation and Emotion

CHAPTER OUTLINE

Motivation refers to factors affecting the initiation, direction, intensity, and persistence of behavior.

I. CONCEPTS AND THEORIES OF MOTIVATION

Where does motivation come from?

A motive is a reason or purpose for behavior that provides a way to see unity in the apparent diversity of many behaviors. Motivation is not observed directly but is inferred from observation.

A. Sources of Motivation

1. Four main sources of motivation:
   a) Biological factors include needs for food, water, and proper temperatures.
   b) Emotional factors include panic, fear, anger, love, and hatred.
   c) Cognitive factors include one’s perceptions, beliefs about the self, and expectations about others.
   d) Social factors include the influences of parents, teachers, siblings, friends, and television, and other sociocultural forces.

B. Instinct Theory and Its Descendants

Instincts are automatic, involuntary, and unlearned behavior patterns (sometimes called fixed-action patterns) that are consistently triggered by particular stimuli.

1. Instinct theory alone cannot explain all of human behavior. The list of human instincts grew so long (from 18 to 10,000) as to become meaningless behavioral descriptions rather than explanations. Also, people display few, if any, instinctive fixed-action patterns.

2. Instincts may explain how humans and other animals can be biologically “prepared” to learn certain associations or detect certain sensory or perceptual patterns.

3. Evolutionary psychologists focus on the evolutionary roots of human behavior, on genetically transmitted behavioral predispositions.

C. Drive Reduction Theory

1. Drive reduction theory ties motivation to imbalances in homeostasis.
   a) Homeostasis is the tendency to keep physiological systems at a steady level, or equilibrium, with constant fine-tuning of adjustments to combat environmental changes.
   b) By analogy, a furnace is set to maintain a constant temperature. When the temperature drops below a set point, the furnace turns on to raise the temperature until the set point temperature is met, when the furnace shuts off.

2. This theory argues that physiological imbalances create specific needs, biological requirements for well-being. In responding to needs, the brain creates psychological states called drives, feelings that prompt action to fulfill needs and return to a balanced state.
   a) Primary drives arise from basic unlearned biological needs (e.g., food, water).
b) **Secondary drives** are learned from prior associations with fulfillment of primary drives. They motivate us to act as if we have unmet basic needs. Money is a secondary drive, for it can buy things to satisfy primary drives.

D. **Optimal Arousal Theory**
1. Drive reduction theory cannot explain certain aspects of behavior. People and animals are curious, exploring and manipulating environments even when no obvious drive reduction occurs. Some human behaviors (e.g., sky diving, riding roller coasters, going to horror movies) *increase* arousal rather than decrease it.
2. **Arousal** is the body’s general activation level, shown in the state of many physiological systems.
3. **Optimal arousal theory** argues that people act to maintain a personal optimal level of arousal—seeking excitement when bored and relaxation when overexcited.
4. People generally work and feel best when moderately aroused.

E. **Incentive Theory**

**Incentive theory** emphasizes the role of external stimuli that motivate behavior. People behave to gain positive incentives and to avoid negative incentives.

1. Both inborn physiological factors (*primary drives*) and learned psychological influences (*secondary drives*) influence the value of particular incentives.

II. **EATING**

*What makes me start eating and stop eating?*

A. **Signals for Hunger and Satiety**
1. **Hunger** is the state of wanting to eat; **satiety** is the state of no longer wanting to eat.
2. **Signals from the Stomach**
   a) The stomach contracts during hunger pangs, and increased pressure within the stomach can reduce appetite.
   b) People with stomachs removed still get hungry and eat normally, so stomach cues can affect eating but do not control it. Stomach cues seem to operate mainly when you are very hungry or very full.
3. **Signals from the Blood**
   a) The brain monitors the level of *food nutrients* absorbed into the bloodstream and *hormones* released in response to the nutrients.
      (1) Nutrients monitored include *glucose* (the main form of sugar used by body cells), *fatty acids* (from fats), and *amino acids* (from proteins).
      (2) The blood signals also include the level of hormones like *insulin* and *leptin* that provide satiety signals to the brain.
         (a) Although leptin appears to be involved in long-term regulation of body fat, injections of leptin are only effective for obese individuals who are leptin deficient, a rare condition.

B. **Hunger and the Brain**
1. Some regions of the hypothalamus detect blood signals and help regulate hunger.
   a) If fibers in the *ventromedial nucleus* are destroyed, rats eat huge amounts, increasing body weight. If the ventromedial nucleus is stimulated, rats stop eating. This may be a “stop-eating” brain region.
   b) When fibers in the *lateral hypothalamus* are destroyed, rats stop eating. When the lateral hypothalamus is stimulated, rats eat voraciously. This may be a “start-eating” brain region.
2. The *set-point* concept suggests that these two regions interact to maintain some homeostatic level or set point. Animals eat until reaching their set point, then stop until their brain senses a drop in desirable intake, then eat again. This theory of discrete “start-eating” and “stop-eating” brain centers turned out to be too simplistic.
a) The paraventricular nucleus plays a role similar to the ventromedial nucleus.
b) Hunger can be caused by neurotransmitters’ effect on certain neurons. For example, neuropeptide Y stimulates carbohydrate eating, serotonin suppresses it, galanin motivates eating of high-fat food, enterostatin reduces fatty food desire, endocannabinoids stimulate eating in general, and peptide YY3-36 causes a feeling of fullness and reduced food intake.

C. Flavor, Sociocultural Experience, and Food Selection
1. Flavor—a blending of food’s smell and taste—affects eating. Taste cues influence one’s eating because people eat more food from a multicourse meal with several flavors than from a meal with only one type of food.
2. The appearance and smell of foods, as well as certain situations, can come to elicit conditioned eating responses that override brain set-point mechanisms. In addition, people tend to eat more when with others than when alone.
3. There are wide cultural variations in food use and selection. Food culture explains why some people consider a food to be a delicacy and other people consider it to be disgusting.

D. Eating Disorders
1. Problems in the processes regulating hunger and eating may cause an eating disorder.
2. Obesity
   a) Obesity is defined as a condition in which a person’s body-mass index (BMI) is greater than 30. BMI = weight in kilograms divided by the square of height in meters. According to the BMI, about 30 percent of Americans are obese.
   b) Obesity is associated with many health problems, including diabetes, high blood pressure, an increased risk of heart attack, possibly Alzheimer’s disease, and in general a predicted shortening of life expectancy.
   c) Obesity is caused when people get more energy from food than the body metabolizes (uses). Extra energy, measured in calories, is stored as fat.
   d) Obese people tend to eat greater amounts of high-calorie, tasty foods but lesser amounts of less-tasty foods. Overweight people may be less active than lean people, a pattern that often begins in childhood. Also, observational learning, too little parental control over children’s eating habits, and maladaptive reactions to stress underlie some cases of obesity.
   e) Genetic factors along with certain viruses may help to explain some cases of obesity.
   f) Losing weight can be especially difficult when metabolism slows in response to the decreased food intake. Bariatric surgery, recommended only for extreme cases, restructures the stomach and intestines so that less food energy is stored. Anti-obesity drugs to alter brain mechanisms involved in overeating and fat storage are being tested but will take time before they are ready for use in humans.
   g) The most effective weight-loss programs include reduced food intake, changing habits and attitudes toward food, and increased exercise.
3. Anorexia Nervosa
   a) In anorexia nervosa, self-starvation and other purging techniques bring weight to below 85 percent of normal. Often, anorexics feel hungry and may be obsessed with food, yet eat very little. About 95 percent of anorexics are female; about 1 percent of the young female population of the United States are affected.
   b) Anorexia is associated with serious health problems. About 4 to 30 percent of those with this disorder will die of starvation, chemical imbalances, or suicide.
c) A combination of factors underlies the development of anorexia, including having a self-punishing, perfectionist personality, as well as a culturally reinforced obsession with thinness and attractiveness. Anorexics have a distorted body image and may still see themselves as fat even after losing over 50 percent of a normal body weight.
d) Treatment may include drugs, hospitalization, and psychotherapy, but more effective methods are still needed. Some prevention programs have shown promise.

4. Bulimia Nervosa
   a) In bulimia nervosa, one “binges” on massive amounts of food and then eliminates the food by self-induced vomiting or strong laxatives. The person may be thin, of normal weight, or even overweight. Bulimia can cause dehydration, nutritional problems, intestinal damage, dental problems, and throat damage.
   b) Bulimia is associated with perfectionism, low self-esteem, stress, overconcern with thinness, depression and other emotional problems, and biological problems such as defective satiety mechanisms.
   c) Treatment typically includes individual or group psychotherapy and sometimes antidepressants.

III. SEXUAL BEHAVIOR

How often does the average person have sex?

Human sexual behaviors and arousal are shaped by both biology and culture. Humans show a huge variety of sexual scripts, learned behavioral patterns leading to and surrounding sex.

A. Focus on Research: Tell Me About Your Sex Life
Human sexual behavior was first studied by Alfred Kinsey using questionnaires in the 1940s and by Masters and Johnson doing laboratory observations of the human sexual-response cycle in the 1960s. Information on current sexual behavior is needed, but recent survey data are often flawed by nonrandom samples and methodological errors.

1. What was the researchers’ question?
   Can researchers collect data that is more representative to describe people in general? To avoid key methodological problems, researchers from the University of Chicago conducted the 1994 “National Health and Social Life Survey.”

2. How did the researchers answer the question?
a) Subjects were not volunteers, but rather 3,432 people, ages eighteen to fifty-nine, selected at random to represent current U.S. sociocultural diversity.
b) Data were gathered in face-to-face interviews to ensure that respondents understood and fully answered questions. Subjects could answer some of the more sensitive questions anonymously.

3. What did the researchers find?
a) Most people had sex about once a week in monogamous relationships, and a third had sex less than a few times in the past year.
b) Males had an average of six sexual partners in their lifetime; women had an average of two.
c) People in committed, monogamous relationships had more frequent and satisfying sex.
d) The most common sexual act was penis-vagina intercourse.

4. What do the results mean?
The images provided by our culture and the media may not be accurate. People tend to be more sexually conservative than what is reflected by magazine polls and television talk show guests.
5. What do we still need to know?
   a) The Chicago survey did not ask about more controversial aspects of sexuality, such as pornography or the role of sexual fetishes.
   b) People in the United States were the focus of this study; therefore, to know about people in the rest of the world, the Chicago team has begun interviews in other countries.
   c) Many questions are raised by studies like this. For example, when do people become interested in sex and why? How do people express their desires? How does learning modify the biological forces at the base of sexual motivation?

B. The Biology of Sex
1. The sexual response cycle is an arousal pattern that accompanies human sexual activity. Its phases include excitation, plateau, orgasm, and resolution. Men then enter a refractory period. Men and women differ in their patterns of response.
2. Both sexes produce all sex hormones, but males have greater proportions of androgens (e.g., testosterone), the masculine hormones, while females have greater proportions of estrogens (e.g., estradiol) and progestins (e.g., progesterone), the feminine hormones. Hormones affect desire but not the physical ability to have sex.
   a) Hormones’ organizing effects physically change the brain and body. Some of these effects begin prenatally and determine female or male sexuality patterns.
   b) Hormones’ activating effects are temporary behavioral changes that last only as long as a sex hormone’s level is elevated.

C. Social and Cultural Factors in Sexuality
1. Some sexual attitudes and behaviors are learned along with gender roles.
2. In many cultures men are far more interested in and responsive to erotic visual images than women are. There is a biological basis, but it interacts with sociocultural factors.

D. Sexual Orientation
1. Sexual orientation refers to the nature of a person’s enduring emotional, romantic, or sexual attraction to others. These feelings may or may not be translated into corresponding behaviors.
2. Most humans’ sexual orientation is heterosexual, attraction to members of the opposite sex. Sexual attraction between members of the same sex is homosexual (specifically, gay for men and lesbian for women) People who are attracted to both sexes are bisexual.
3. Attempts to alter the sexual orientation of homosexuals have usually been ineffective.
4. Since homosexuals and bisexuals are often discriminated against, many hesitate to reveal their sexual orientation. Thus it is difficult to estimate the relative mix of different sexual orientations. The best available data suggest that between 2 and 15 percent of the population of the United States, Canada, and Western Europe are homosexual.

E. Thinking Critically: What Shapes Sexual Orientation?
1. What am I being asked to believe or accept?
   We do not learn a sexual orientation; we are born with it.
2. Is there evidence available to support the claim?
   One study showed that homosexuality in males appears to be related to a gene on the X chromosome, but later studies did not support this finding.
   Other studies have shown that genetically identical male twins are more likely to share the same sexual orientation, compared to nonidentical male twins or adopted brothers.
   Studies on women who were exposed to high levels of prenatal androgens found that they were more likely have a homosexual orientation.
Anatomical differences in the hypothalamus, which is involved in sexual functioning, exist between heterosexual and homosexual men.

A biological basis for sexual orientation is suggested by the weak influences of the environment on sexual orientation. Children adopted by homosexual parents are no more or less likely to display a homosexual orientation than are children raised by heterosexual parents.

3. *Can that evidence be interpreted another way?*

Correlations between genetics and sexual orientation are not demonstrations of cause and effect.

Genes or prenatal hormone levels might influence nonsexual personality traits or behaviors and people’s reactions to them may result in a particular sexual orientation. In about 50 percent of identical-twin pairs, both members are either homosexual or bisexual. But, as identical twins are genetically identical, sexual orientation should be perfectly correlated if it were entirely a genetic phenomenon.

4. *What evidence would help to evaluate the alternatives?*

It would be useful to know more about the genetic makeup, mental style, and behavioral characteristics of people with different sexual orientations. The more we learn about sexual orientation, the easier it will be to interpret data relating to its origins.

A generally accepted system for describing and defining exactly what is meant by the term *sexual orientation* is needed.

5. *What conclusions are most reasonable?*

It is likely that sexual orientation is heavily influenced by genetics, but not in a vacuum. Almost certainly, environment also shapes how orientation is expressed. Sexual orientation reflects the complex interplay of both nature and nurture.

**F. Sexual Dysfunctions**

1. *Sexual dysfunctions* are problems in a person’s desire for or ability to have satisfying sexual activity. Most people have problems at some point in their lives, but they are only considered dysfunctions if they become persistent and distressing obstacles to sexual functioning. Most dysfunctions can be overcome through psychotherapy, medication, or both.

   a) In men, *erectile disorder*, the inability to have or maintain an erection adequate for intercourse, may be due to physical and/or psychological causes.

   b) Male *premature ejaculation* is a recurring tendency to ejaculate in sex sooner than the man or his partner would like.

   c) In women, *sexual arousal disorder*, a recurring inability to become aroused during sexual activity also may be result of physical and/or psychological factors.

**IV. ACHIEVEMENT MOTIVATION**

*Why do some people try harder than others to succeed?*

People work hard partly due to *extrinsic motivation*, a desire for external rewards (e.g., money). Work and other behaviors can also be due to *intrinsic motivation*, a desire for internal satisfaction.

A. Need for Achievement

*Need achievement* is a specific motive to strive for excellence and to master tasks, bringing intense satisfaction from doing so.

1. Individual Differences

   a) People with high need achievement tend to share the following characteristics:
(1) They set challenging, but realistic, goals.
(2) They actively seek success, take risks when necessary, and can wait for rewards.
(3) They are intensely satisfied when they do well but, if they feel they have tried their best, are not too upset by failure.

b) Differences in achievement motivation also appear in the kinds of goals people seek in achievement-related situations.

(1) People with learning goals engage in achievement-related activities mainly to get better at those activities. They tend to watch others and struggle with problems on their own. When they seek help, they will ask for task-related information, but not quick, easy answers that will remove challenges.

(2) People with performance goals are primarily concerned with demonstrating competence they believe they already possess. They tend to seek information about how well they performed compared to others. When they seek help, they will ask for “the right answer” rather than tips on how to do it themselves. They tend to avoid new challenges and tend to quit in response to failure.

2. Development of Achievement Motivation

a) Achievement motivation develops in early childhood under the influence of both genetic and environmental factors.

(1) Inherited behavioral tendencies may support or undermine the development of achievement motivation.

(2) This motivation is shaped by what children learn from others, especially from parents. Parents of children who score high on achievement motivation tests tend to do certain things.

   (a) They encourage children to try difficult tasks, especially new ones.
   (b) They offer praise and other rewards for success.
   (c) They encourage children to find ways to succeed, rather than letting them just complain about failure.
   (d) They prompt children to go on to the next, somewhat more difficult challenge.

b) Ideas about achievement motivation differ from culture to culture. Children’s books, stories, and television programs have achievement themes that reflect the culture’s views on achievement.

B. Achievement and Success in the Workplace

1. Employers tend to set up jobs in accordance with their ideas about how intrinsic and extrinsic motivation combine to shape employees’ performance

   a) When workers are seen as lazy, untrustworthy, and lacking ambition, employers tend to offer highly structured, heavily supervised jobs and assume employees are motivated mainly by extrinsic rewards, like money.

   b) They are often surprised when their employees are dissatisfied and not motivated.

2. In Western cultures, worker motivation is tied to thoughts and feelings about level of control over the work environment. Workers tend to be happier, more satisfied, and more productive if they are

   a) encouraged to participate in work decisions.
   b) given problems to solve.
   c) taught more than one skill.
   d) given individual responsibility.
   e) given public recognition for good performance.
3. Allowing people to set and achieve clear goals can increase performance and job satisfaction, which in turn provide more economic benefits to the company (e.g., lower absenteeism, lower turnover). Effective goals have three features; they
   a) are personally meaningful.
   b) are specific and concrete.
   c) support workers’ own goal setting, offer special rewards for reaching goals, and give encouragement after failure.

C. Achievement and Subjective Well-Being

Researchers studying positive psychology are interested in subjective well-being, a blend of feeling satisfied with life, often having positive moods and emotions, and infrequently having negative moods and emotions.

1. Research supports the idea that people living under extreme stress feel less happy than people in better circumstances, but effects of events on happiness do not last as long as might be expected.

2. People generally return to a baseline level of happiness after an extremely positive or negative event, even a permanent one. Baseline levels of happiness are remarkably stable throughout life, may be related to temperament or personality, and may be influenced by genetics. Individual differences in happiness are more strongly associated with inherited personality traits than with environmental factors such as money, popularity, or physical attractiveness.

3. Close social ties, religious faith, and having adequate resources to make progress toward goals are important to happiness.

4. People with a deficiency orientation tend to seek happiness by trying to acquire the goods and status they don’t have, but think they need, rather than by appreciating life itself and what they do have. This orientation may actually contribute to unhappiness.

V. RELATIONS AND CONFLICTS AMONG MOTIVES

Which motives move me most?

A. Maslow’s Hierarchy

1. Abraham Maslow described five basic classes of hierarchically organized needs. He stressed that “lower” needs must be at least partially satisfied before “higher” needs can be effective motivators. From bottom to top these motives are:
   a) Physiological, such as needs for food, water, oxygen, and sleep.
   b) Safety, such as a need for a secure source of income and a place to live.
   c) Belongingness and love, such as the need to be part of social groups and to have affectionate sexual and nonsexual relationships with others.
   d) Esteem, such as the need to be respected as a useful, honorable individual.
   e) Self-actualization means to reach one’s full potential as a human being.

2. Maslow’s system is criticized as too simplistic. Even with unmet lower-level needs, higher levels in the hierarchy may motivate some people. People can seek to satisfy several needs at once. And different cultures differ in the ordering of the needs.

3. The existence, relatedness, growth (ERG) theory places needs in three categories:
   a) existence needs, such as for food and water.
   b) relatedness needs for social interactions and attachments.
   c) growth needs, such as for developing one’s capabilities.

4. The ERG theory does not assume that needs must be satisfied in a particular order, but motivation to pursue them depends on time and situation.

VI. LINKAGES: CONFLICTING MOTIVES AND STRESS

Different motives are sometimes in conflict. When the decision is important, when no choice is obviously right, and/or when the alternatives are approximately equal, the greater the internal conflict, indecision, and stress.
A. *Approach-approach conflicts* exist when we must choose only one of two desirable options. An example might be having to choose between two parties given at the same time.

B. *Avoidance-avoidance conflicts* force us to select from two undesirable alternatives. An example might be choosing between paying a fine or going to jail after receiving a speeding ticket.

C. *Approach-avoidance conflicts* occur when one activity has both attractive and unattractive features. An example might be that you want to go with some friends to the movies, but doing so requires more money than you want to spend.

D. *Multiple approach-avoidance conflicts* involve a choice between two or more alternatives, each of which has both positive and negative features. These conflicts are the most difficult to resolve, partly because the features of each option are often difficult to compare. An example might be if you had to choose between two jobs: one pays very little but allows you to be with your friends; the other is boring work but offers good pay.

VII. THE NATURE OF EMOTION

*How do feelings differ from thoughts?*

A. Defining Characteristics

1. The inner, or *subjective*, experience of emotion has several characteristics:
   a) Emotion is usually *temporary*, with a clear beginning and end; is *positive* or *negative*; and can vary in intensity.
   b) Emotion arises partly from *mental assessment* of a situation, and it *alters thought processes*.
   c) Emotion brings on an *action tendency*—a motivation to behave in a certain way.
   d) Emotions are *passions* that you feel, rather than states you can totally control.

2. Objectively measurable aspects of emotion include *expressive displays* and *physiological responses*.

3. An *emotion* is a temporary experience with positive or negative or mixed qualities. People feel emotion with varying intensity as happening to the self, generated in part by mental assessment of situations and accompanied by learned and innate physical responses. Through emotion, people communicate internal states and intentions to others. Emotion triggers and guides thought, and organizes, motivates, and sustains behavior and social relations.

B. The Biology of Emotion

Brain areas of the *central nervous system* are involved in the generation and experience of emotions, and the *autonomic nervous system* gives rise to many of the physiological changes associated with emotional arousal.

1. Brain Mechanisms
   a) Activity in the brain’s *limbic system*, especially the *amygdala*, is central to emotion.
   b) Voluntary (“faked”) facial expressions are controlled by the brain’s *pyramidal motor system*, while automatic (“felt”) facial expressions are controlled by the brain’s *extrapyramidal motor system*.
   c) The right hemisphere is more important than the left in the experience of negative emotion, the perception of any emotion exhibited in faces or other stimuli, and the facial expression of an emotion.

2. Mechanisms of the Autonomic Nervous System
   a) The autonomic nervous system (ANS), part of the peripheral nervous system, carries information between the brain and most body organs. The ANS modulates the ongoing activity of the body’s organs.
   b) The ANS is organized into two parts. Emotions can activate either part.
(1) The **parasympathetic nervous system** releases *acetylcholine* onto target organs leading to activity related to the protection, nourishment, and growth of the body.

(2) The **sympathetic nervous system** releases *norepinephrine* onto target organs, helping prepare the organism for vigorous activity. This system stimulates the **flight-or-fight syndrome**, a pattern of increased heart rate and blood pressure, rapid or irregular breathing, dilated pupils, sweating and dry mouth, increased blood sugar, and “goose bumps,” which prepares the body to deal with stressors.

c) You cannot consciously experience the brain mechanisms that alter the activity of the ANS. Any conscious efforts have indirect effects on it.

VIII. THEORIES OF EMOTION

*Is emotion in the heart, in the head, or both?*

A. **James’s Peripheral Theory**

1. Also called the **James-Lange theory**, this view argues that the experience of physiological responses precedes and causes subjective emotional experience. There is no special emotion center in the brain. Emotion becomes conscious when the brain becomes aware of bodily responses. Each emotion is created by a particular pattern of bodily responses.

2. Evaluating James’s Theory
   a) Certain emotional states are associated with particular patterns of autonomic changes (e.g., fear is associated with decreased blood flow to the feet and hands).
   b) Different patterns of autonomic activity are also related to specific emotional expressions.
   c) The **facial feedback hypothesis**, a variation of the James-Lange theory, states that involuntary facial movements provide sensory information to the rest of the body to create an emotional experience. Research has supported this hypothesis.

3. **Lie Detection**
   a) *Polygraphs* try to detect lying by measuring ANS activity thought to be specific to lying. Presumably, ANS measures reflect one’s anxiety or guilt about not telling the truth.
   b) Using a *control question test*, ANS responses to control questions (Have you ever lied?) are compared to responses to relevant questions (Did you stab someone on May 31, 2005?). An innocent person should have stronger emotional responses to the control questions than to the relevant questions.
   c) The *directed lie test* compares a person’s physiological reactions when asked to lie and when telling the truth.
   d) The *guilty knowledge test* seeks to determine if a person reacts in a notable way to information about the crime that only the perpetrator would know.
   e) Estimates on the accuracy of polygraphs vary widely, but most researchers agree that a guilty person can “fool” a polygraph, and some innocent people can be mislabeled as guilty.
   f) The results of a polygraph test are affected by what people think about the act of lying and about the value of the test.
   g) Lie-detecting devices that do not depend on a link between deception and ANS responses are being investigated.

B. **Cannon’s Central Theory**

1. Also called the **Cannon-Bard theory**, this view argues that a special brain region, especially the thalamus, interprets emotional situations. The thalamus sends signals to the ANS which governs bodily responses, and at the same time sends signals to the...
cortex, where the emotion becomes conscious. This theory suggests direct central nervous system experience of emotion, with or without bodily feedback.

2. Updating Cannon’s Theory
   a) More recent work suggests that there are other brain areas involved in the direct central experience of emotions. The thalamus may be involved, but it is not the director of emotions.
   b) Strong emotions may bypass the cortex without requiring conscious thought to activate them. This may explain intense fear or phobia.
   c) Activation of specific brain areas produces feelings of either pleasure or discomfort associated with emotion.

(1) The areas of the brain activated by the kinds of events that elicit emotion have widespread connections throughout the brain; thus there is probably not an “emotion center” responsible for the experience of emotion.

C. Cognitive Theories

1. The Schachter-Singer theory argues that emotion results from a combination of feedback from the body’s responses and our interpretation of what caused those responses. According to the theory, how we label arousal depends on our attribution, the process of identifying the cause of some event. We attribute our arousal to different emotions depending on the information available about the situation.
2. This theory predicts that attributing arousal to a nonemotional cause should reduce emotional intensity. Research supports this prediction.
3. Few researchers today fully accept the Schachter-Singer theory, but it did stimulate research on excitation transfer, which occurs when arousal from one experience carries over to another independent situation. Thus, after exercising, you may be more likely to show anger when provoked.
4. Lazarus’s cognitive appraisal theory argues that it is our interpretation of events themselves that are most important in producing an emotion. Specific emotions that we experience depend on our individual goals, needs, standards, expectations, and past experiences.

IX. COMMUNICATING EMOTION

Which emotional expressions are innate, and which are learned?

In humans, facial expressions play a primary role in communicating emotions. The human face can generate thousands of different expressions, and people, especially females, are good at detecting them. People are sensitive to even small changes in facial expression.

A. Innate Expressions of Emotion

1. Charles Darwin saw basic emotional facial expressions as universal, genetically determined, and serving the adaptive role of displaying emotional states to others. Thus, Darwin claimed, facial expressions are largely unlearned and fundamentally social in nature.
   a) Infants show appropriate emotional facial expressions without being taught. Blind infants—who cannot imitate what they see in others—show the same emotional expressions as sighted infants.
   b) For many “basic” emotions, people of all cultures show similar facial responses to similar emotional stimuli.

B. Social and Cultural Influences on Emotional Expression

1. People show culture- and situation-specific variations in emotional facial expressions. There is also a certain degree of cultural variation in recognizing some emotions and in expressing certain emotions.
a) Paul Ekman and colleagues categorized seventeen types of smiles, including “false smiles” and “masking smiles.” The smile that occurs with genuine happiness is called the Duchenne smile.

2. Learning About Emotions
a) A person’s repertoire of facial expressions expands with age, as he/she practices imitating others. Emotional expressions are probably operantly shaped by others, thus ensuring that they do not become so personalized that people will not understand them.

b) Children gradually learn an emotion culture—rules that govern what emotions are appropriate in what circumstances and what emotional expressions are allowed. These rules can vary between genders and among cultures. Emotion cultures also shape how people describe feelings. Some emotion words in other languages have no English meaning, and some English emotion words have no equivalent in other cultures.

3. Social Referencing
In uncertain situations, social referencing helps you figure out how to behave. Others’ emotional states and facial expressions give you a reference on how to behave.

a) Infants who cannot yet understand spoken language can depend on adults’ emotional expressions for information.